

## CHAPTER 3 • NOISE ENVIRONMENT



*The basis for all noise measurements is what is referred to as Community Noise Equivalent Level (CNEL) Noise Contours.*



Sensitivity to noise varies depending on the individual. Different individuals react uniquely to the same noise environment. For some, the roaring and constant drone of roadway noise is deafening, while for others, this noise is perceived as background and is mostly filtered out of their perception.

For land use planning purposes, noise impacts are characterized in a standardized manner throughout the State of California. The basis for all noise measurements is what is referred to as Community Noise Equivalent Level (**CNEL**) Noise Contours. The State of California adopted this noise measurement standard in Title 21, Section 5001 of the California Code of Regulations. CNEL measurements reflect the heightened sensitivity when people are home and during nighttime sleep cycles. The CNEL does not focus on single event noise impacts, but rather concentrates on average noise levels with special weighting of these levels for evening and nighttime hours.

### 3.1 NOISE CONTOURS

The historic noise zones associated with the adopted NAS Miramar AICUZ and CLUP are shown on Figure 3-1. These contours are shown for comparison purposes only and do not reflect the current flight operations and corridors utilized by the Marine Corps.

Projected CNEL noise contours have been prepared for MCAS Miramar and are shown on Figure 3-2. These noise contours were developed by Wyle Aviation Services under Report WR 03-05, Aircraft Noise Study for MCAS Miramar, November 2004. This report provides the basis for the contours, as well as all of the technical and tabular information needed to document the noise contours. Some of the major assumptions and variables that directly affect the noise contour creation include:

- Number of operations per day over a 365 day year;
- Time of day these events occurred;
- Percentage of operations that occurred, their location, and on which flight track;
- Power management/flight profiles/corresponding airspeed of all aircraft modeled and at representative locations; and
- The number and duration of maintenance engine testing.

*The noise contours were developed by Wyle Aviation Services under Report WR 03-05, Aircraft Noise Study for MCAS Miramar, November 2004.*



# NAS MIRAMAR

Figure 3-1

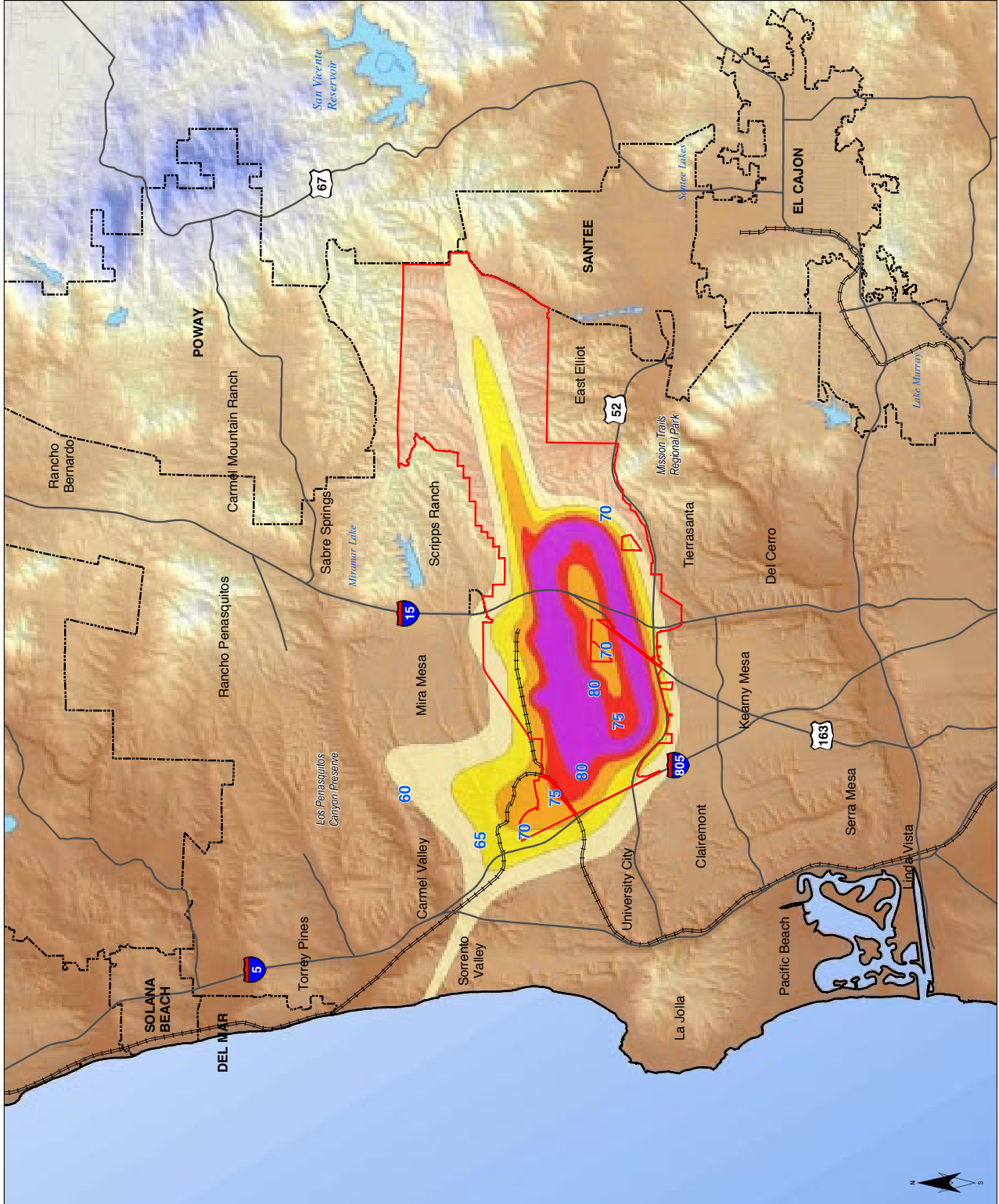
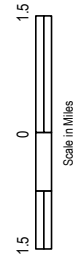
## Adopted NAS Miramar Noise Contours

- MCAS Miramar Boundary
- City Boundary
- Railroad

### Adopted Noise Contours

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL
- 80 CNEL

Source: 1992 NAS noise contours from SANDAG CLUP.



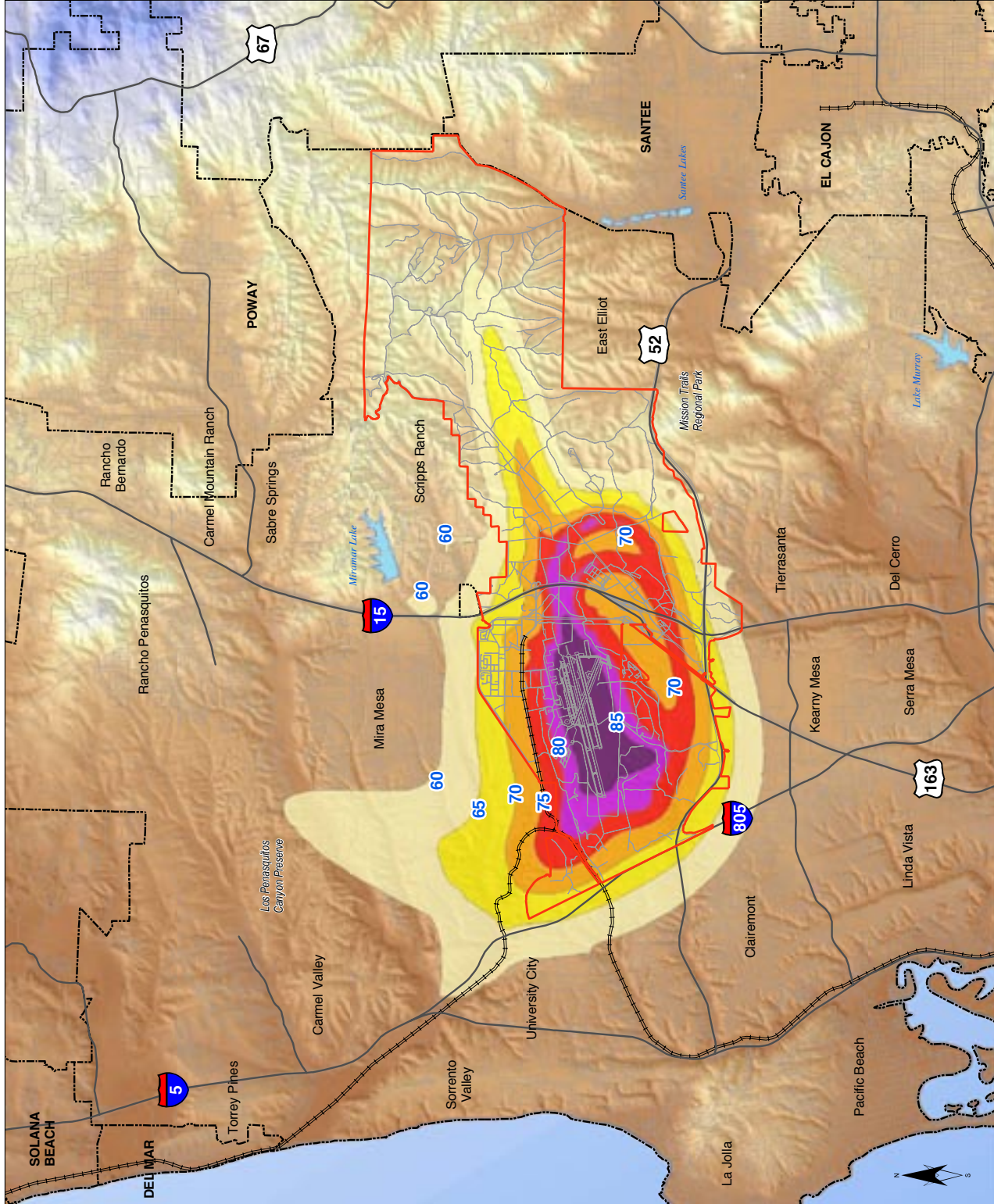


# MCAS MIRAMAR

Figure 3-2  
MCAS Miramar Noise Contours

- MCAS Miramar Boundary
- City Boundary
- Railroad
- MCAS Miramar Noise Contours
- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL
- 80 CNEL
- 85 CNEL

Source: Noisemap 7.0



*Some of the changes in the noise environment map are related to changes in the modeling, while others represent the change from Naval aircraft to Marine Corps aircraft that utilized modified flight corridors.*

Noise contours for MCAS Miramar operations were developed using current software identified as NOISEMAP 7.0. This software now includes the ability to address the terrain and obstruction benefits of existing structures to ameliorate the sound propagation from aircraft operations. These and additional refinements have improved the methodology considerably. Noise metrics will continue to evolve in this manner, creating a situation where many of the changes in the noise environment will actually be related to improved modeling, not changed conditions.

### 3.2 CHANGES IN THE NOISE ENVIRONMENT

Adopted noise contours were modeled using an earlier version of noise model referred to as NOISEMAP 5.2. Figure 3-3 compares the adopted Navy noise contours to the Marine Corps noise contours. Some of the changes shown on this map are a result of the new noise model and the remainder of the changes reflect the normalized operating conditions of new fixed and rotary-wing aircraft. The Marine Corps provides for the forward projection of air power in support of the amphibious doctrine and the air to ground mission is unique from the Navy in this area. Notable changes in the CNEL noise contours are the result of the USMC requirement for equal concentration of departure operations in the Seawolf and Julian Departure Flight Corridors to support these training requirements. Previously, 75% of Navy departures occurred in the Seawolf and 25% within Julian Departure Corridors for noise modeling purposes. As seen on Figure 3-2, pockets of 60 dB CNEL noise exist in the Scripps Ranch area that are a direct result of greater accuracy in the latest noise modeling software that captures the testing of jet engines needed for maintenance requirements.





# MCAS MIRAMAR

Figure 3-3

Comparison of Adopted NAS Miramar and  
MCAS Miramar Noise Contours

MCAS Miramar Boundary  
City Boundary  
Railroad

Adopted NAS Noise Contours

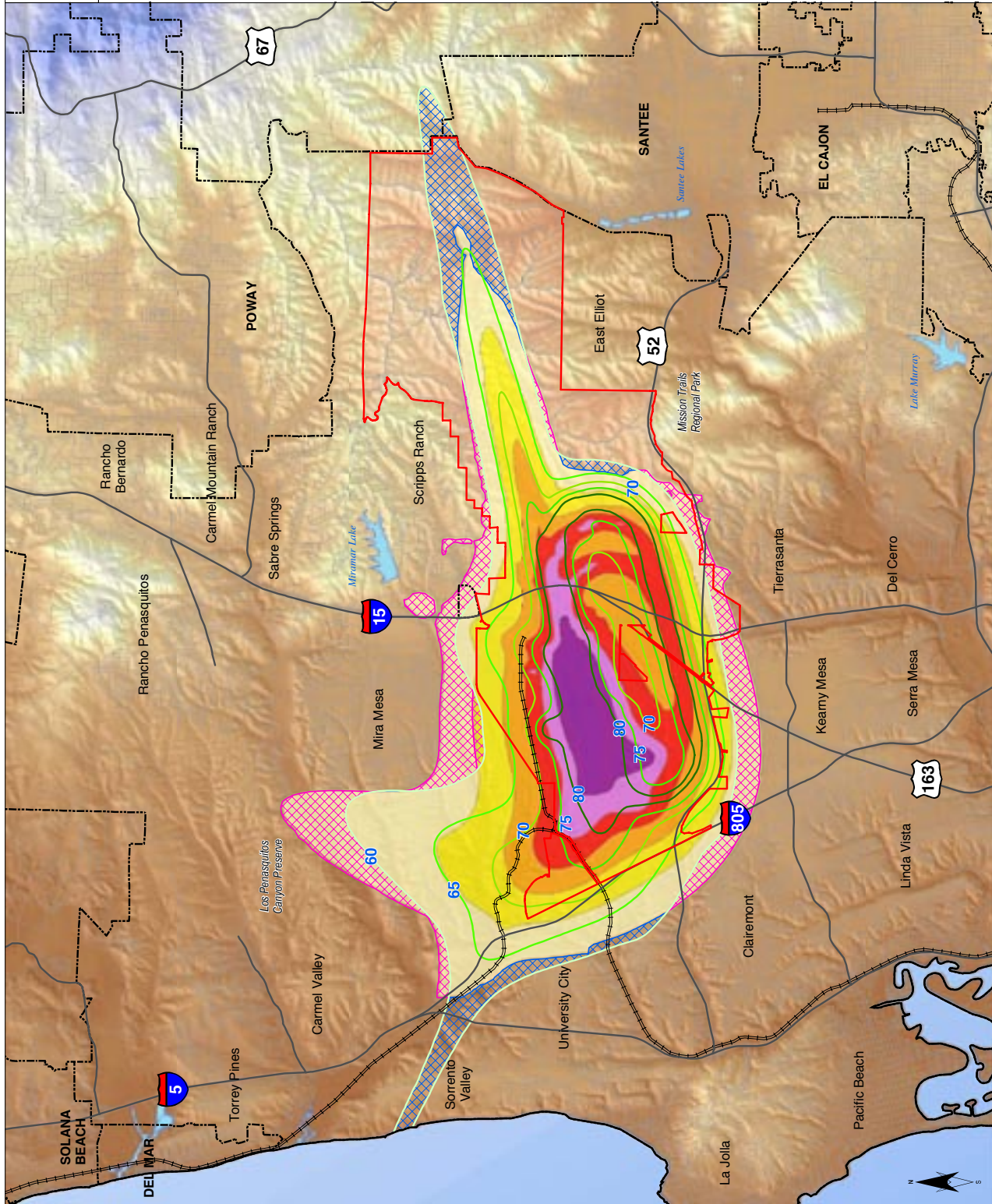
60 CNEL  
65 CNEL  
70 CNEL  
75 CNEL  
80 CNEL

MCAS Miramar Noise Contours

60 CNEL  
65 CNEL  
70 CNEL  
75 CNEL  
80 CNEL  
85 CNEL

Increase  
Decrease

Source: NAS noise contours from SANDAG CLUP, 1992 (calculated using NOISEMAP version 5.2).  
Proposed noise contours from Wyle Laboratories, 2003 (calculated using NOISEMAP version 7.0 noise model)





*Noise complaints have tapered off over the past two years to just 360 in 2003.*

### 3.3 NOISE COMPLAINTS

Noise concerns in surrounding communities have stabilized with the normalizing of Marine Corps operations at Miramar, and annual complaints declined to just over 360 in 2003.

